

EXHIBIT “24”

**REMOVAL PROGRAM
PRELIMINARY ASSESSMENT/
SITE INVESTIGATION REPORT
FOR THE
W. R. GRACE SITE
CAMBRIDGE, MASSACHUSETTS
22 AUGUST 2000 AND 6 AND 7 SEPTEMBER 2000**

Prepared For:

U.S. Environmental Protection Agency
Region I
Emergency Planning and Response Branch
1 Congress Street, Suite 1100
Boston, MA 02114-2023

CONTRACT NO. 68-W-00-097

TDD NO. 00-07-0037

PCS NO. 1228

DC NO. R-1238

Submitted By:

Roy F. Weston, Inc. (WESTON®)
Region I
Superfund Technical Assessment and Response Team 2000 (START)
37 Upton Drive
Wilmington, MA 01887

February 2001

EPA 00003

rec'd 2/20/01

Narrative Chronology

Introduction

On 22 August 2000 and 6 and 7 September 2000, Roy F. Weston, Inc., (WESTON_®) Superfund Technical Assessment and Response Team (START) members Michael Argue, Daniel Muzrall, Tiffany Gurney, Gretchen Franzheim, and Patrick Boska conducted Removal Program Preliminary Assessment/Site Investigation (PA/SI) activities at the W.R. Grace Site (the site), located at 62 Whittemore Avenue, Cambridge, Middlesex County, Massachusetts [see Appendix A - Site Location Map (Figure 1)]. Geographic coordinates of the site are Latitude 42° 23' 47" North and Longitude 71° 08' 23" West, as measured from the center of the property. The purpose of conducting the PA/SI was to determine the presence and extent of suspected asbestos contamination in on-site surface soils.

Site Description

The site is divided into four properties, including the W.R. Grace & Co. Construction Division Headquarters, One Alewife Center, Russell Field Park, and the Alewife Red Line Head House [see Appendix B - Site and Sampling Location Diagram (Figure 2)]. These parcels are owned by W.R. Grace & Co. (Grace), the New Boston Fund, the City of Cambridge (the City), and the Massachusetts Bay Transit Authority (MBTA), respectively. The Grace headquarters property is an irregularly shaped 27-acre parcel that borders Whittemore Avenue and One Alewife Center to the north, Russell Field Park to the east and south, Rindge Avenue to the south, surrounds the MBTA Alewife T Red Line Head House, and is bounded by Alewife Brook Parkway to the west. The northern end of the Grace property contains two large, multiple-story, brick and concrete buildings that have a combined footprint of approximately 175,000-square-feet (ft²), along with landscaped areas, and an asphalt-paved parking area. The remainder of the Grace property consists of open, grassy areas and areas of overgrown vegetation surrounded by 8-foot (ft), chain-link fencing, public-access walkways, and Jerry's Pond, which is located on the southern end of the parcel. Two bioremediation beds are located on the Grace property within a fenced area between the Alewife Red Line Head House and Russell Field Park. One Alewife Center is bordered to the east and south by the Grace property, to the west by the Grace property and a private residence, and to the north by Whittemore Avenue. This parcel contains a large, multiple-story, brick and concrete office building surrounded by landscaped areas. The MBTA parcel is bordered to the north, east and south by the Grace property, and to the west by Alewife Brook Parkway. This parcel contains the Alewife Red Line Head House, which is surrounded by brick and concrete public access walkways. Russell Field Park is bordered to the north and west by the Grace property, to the south by Rindge Avenue and a Metropolitan District Commission (MDC) swimming pool, and to the east by Clifton Street residences. The park consists of two baseball fields, a football field, a soccer field, a running track, public access walkways, and landscaped areas.

Site History

The W.R. Grace portion of the site has been in use as industrial or commercial property since the 1800's. Prior owners of the W.R. Grace portion of the property include clay mining companies, the Boston & Maine Railroad, Dix Lumber Company, the Smith Brickyard Company, the City of Cambridge, an ice cream manufacturing facility, and the Dewey & Almy Chemical Company (Dewey & Almy). According to a Haley & Aldrich (H&A) report prepared for W.R. Grace, Dewey

EPA 00018

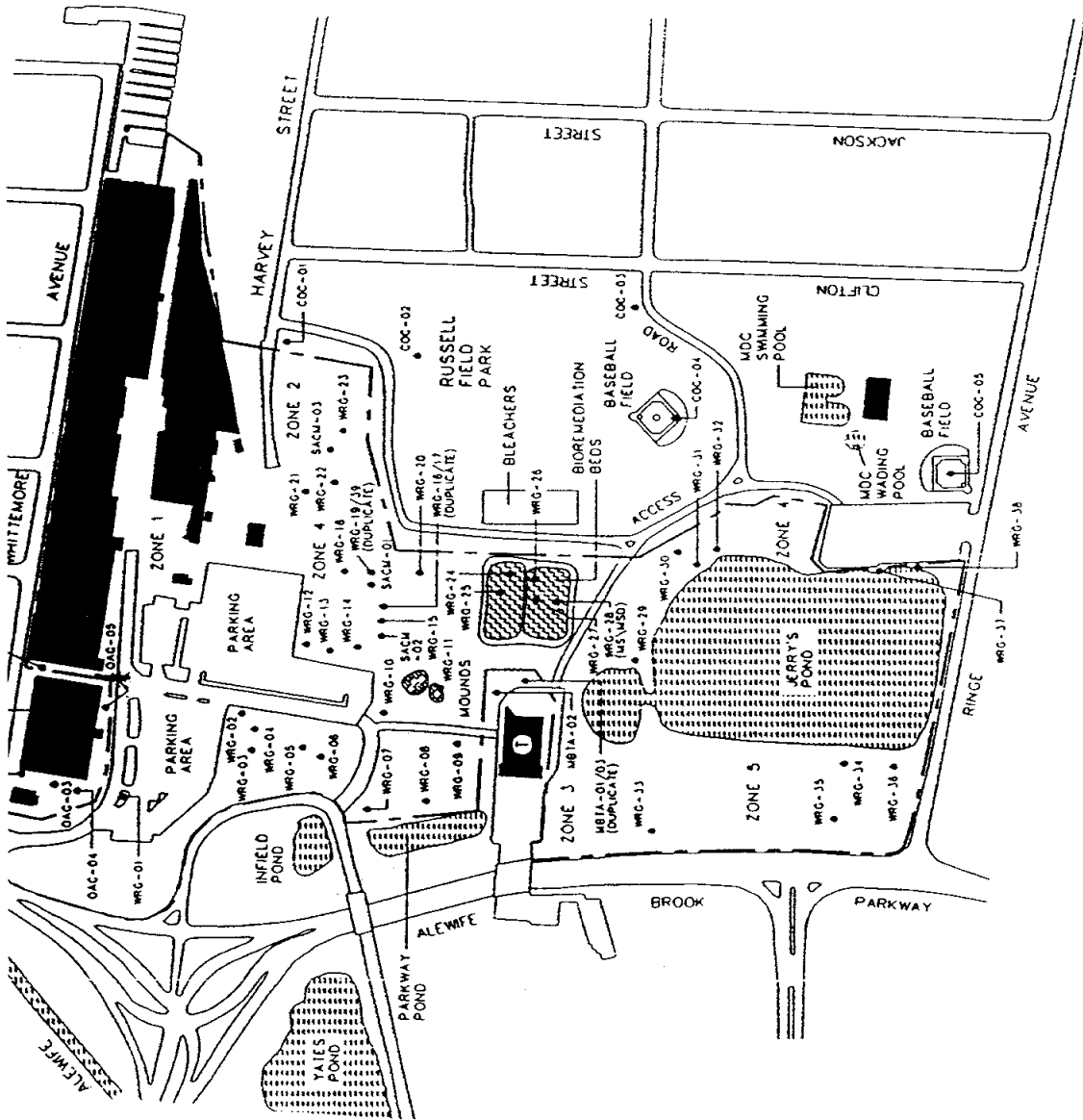
& Almy was founded in 1919 for the manufacture of rubber products. In 1954, Dewey & Almy merged with W.R. Grace & Co., to become the Dewey & Almy Chemical Division of W.R. Grace & Co. It is believed that asbestos was handled in two on-site buildings in the early 1930s as part of a brake lining development program. Asbestos-related activities also occurred on site in the late 1960s and early 1970s when a "small-scale" laboratory analysis and research program was conducted for asbestos-containing fireproofing materials. The above referenced buildings were constructed in 1929 and used for warehousing, experimental process development, and the manufacture of solvent-based jar sealing compound, air-entraining agents for concrete, a silicone masonry sealant, and a dispersant. One of the major products manufactured on site was naphthalene sulfonate, which is a compound used to facilitate the dispersion of rubber in water. During the period of naphthalene sulfonate manufacture, on-site lagoons were used as settling ponds and as sources of cooling water. From 1946 to 1961, one of the buildings housed chemical tank churns, and from 1979 to 1984, the building was used for various chemical manufacturing processes. It is reported that acetone was used on site as a raw material by W.R. Grace. Hazardous substances identified in on-site soils during previous investigations of the Grace property include asbestos, naphthalene, and polycyclic aromatic hydrocarbons (PAHs). Reported asbestos concentrations ranged up to 12 percent in subsurface soils.

An H&A diagram of the Grace property entitled *Site Conditions During Dewey & Almy Operations - Storage Areas* - depicts several areas in which various chemical compounds were stored in aboveground storage tanks (ASTs) and underground storage tanks (USTs). According to the diagram, these chemical compounds included: acetone, toluene, methanol, "white oil", latex, zinc chloride, ammonia, rosin, propane, diesel fuel, gasoline, light oil, heavy fuel oil, calcium lignosulfate, soap, fatty acid, muriatic acid, alcohol, vinyl acetate, nitrogen, sodium hydroxide, potassium hydroxide, sulphuric acid, naphthalene, and formaldehyde. The H&A diagram also indicates that a tank farm located on the property contained ASTs that held, at various times, styrene, butadiene, methyl acetate, dibutyl maleate, isobutyl ether, and hexylene glycol.


During construction of the MBTA Alewife T Red Line Station in the 1980s, soil excavated from the W.R. Grace portion of the property for construction of the tunnel was staged on what is now Russell Field Park, raising the possibility that contamination from the W.R. Grace property could have been spread to the City's property. The MBTA was required to restore the field as a condition of its use; top soil has been spread over Russell Field Park to depths ranging up to 3 ft.

Site Activities

The PA/SI consisted of an on-site reconnaissance, which was conducted on 22 August 2000, and a 2 day sampling event which took place on 6 and 7 September 2000. On 22 August 2000, START members Argue and Muzrall met U.S. Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Mary Ellen Stanton, EPA Community Involvement Coordinator (CIC) Jim Murphy, and Agency for Toxic Substances and Disease Registry (ATSDR) representative Beth Timm at the site. START personnel calibrated the air-monitoring equipment, including a combustible gas indicator/oxygen meter (CGI/O₂), a photoionization detector (PID), a flame ionization detector (FID), and a radiation meter (MicroR) to establish ambient conditions at the site. Ambient conditions were recorded as follows: LEL = 0.0 %; O₂ = 21.3 %; PID = 0.0 units; FID = 0.0 units; MicroR = ≤ 15 μ R/hr. The on-site reconnaissance was conducted in Level D personal protective equipment (PPE), in accordance with the site Health and Safety Plan (HASP). The HASP



SOURCE: HALEY & ALDRICH
ZONES AND TARGETED SAMPLING AREA
NOVEMBER 1998
CITY OF CAMBRIDGE TAX ASSESSOR'S MAP
NOT TO SCALE



WESTON[®]
MANAGERS
DESIGNERS/CONSULTANTS

REGION 1 SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

TOD #
00-07-0037

DRAWN BY:
W. SHAW

DATE
8/28/00


FILE NAME:
R:\00070037\FIG2.DWG


FIGURE 2


**SITE AND SAMPLE
LOCATION DIAGRAM**


W.R. GRACE & COMPANY
62 WHITTEMORE AVENUE
CAMBRIDGE, MASSACHUSETTS


LEGEND


PAVED AREA

SOIL SAMPLE LOCATION

SURFACE WATER

BUILDING

APPROX W.R. GRACE PROPERTY LINE

PUBLIC TRANSPORTATION STATION

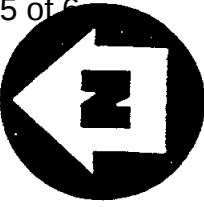


TABLE 2
SEMIVOLATILE SOIL ANALYSIS
µg/kg
TIER I - NON-VALIDATED RESULTS

SAMPLE NUMBER	D02388	D02389	D02390	D02391	D02392
SAMPLE LOCATION	WRG-24	WRG-25	WRG-26	WRG-27	WRG-28
LABORATORY NUMBER	9A09G561-001	9A09G561-002	9A09G561-003	9A09G561-004	9A09G561-005

COMPOUND	CRQL					
Benzaldehyde	330	360 U	360 U	360 U	370 U	390 U
Phenol	330	360 U	360 U	360 U	370 U	390 U
bis(2-Chloroethyl)Ether	330	360 U	360 U	360 U	370 U	390 U
2-Chlorophenol	330	360 U	360 U	360 U	370 U	390 U
2-Methylphenol	330	360 U	360 U	360 U	370 U	390 U
2,2'-oxybis(1-Chloropropane)	330	360 U	360 U	360 U	370 U	390 U
Acetophenone	330	360 U	360 U	360 U	370 U	390 U
4-Methylphenol	330	360 U	360 U	360 U	370 U	390 U
N-Nitroso-di-n-propylamine	330	360 U	360 U	360 U	370 U	390 U
Hexachloroethane	330	360 U	360 U	360 U	370 U	390 U
Nitrobenzene	330	360 U	360 U	360 U	370 U	390 U
Isophorone	330	360 U	360 U	360 U	370 U	390 U
2-Nitrophenol	330	360 U	360 U	360 U	370 U	390 U
2,4-Dimethylphenol	330	360 U	360 U	360 U	370 U	390 U
bis(2-Chloroethoxy)methane	330	360 U	360 U	360 U	370 U	390 U
2,4-Dichlorophenol	330	360 U	360 U	360 U	370 U	390 U
Naphthalene	330	*11000	1000	*7800	*14000	*24000
4-Chloroaniline	330	360 U	360 U	360 U	370 U	390 U
Hexachlorobutadiene	330	360 U	360 U	360 U	370 U	390 U
Caprolactam	330	360 U	360 U	360 U	370 U	390 U
4-Chloro-3-methylphenol	330	360 U	360 U	360 U	370 U	390 U
2-Methylnaphthalene	330	920	58 J	240 J	400	730
Hexachlorocyclopentadiene	330	360 U	360 U	360 U	370 U	390 U
2,4,6-Trichlorophenol	330	360 U	360 U	360 U	370 U	390 U
2,4,5-Trichlorophenol	830	900 U	910 U	910 U	920 U	980 U
1,1-Biphenyl	330	360 U	360 U	360 U	370 U	390 U
2-Chloronaphthalene	330	360 U	360 U	360 U	370 U	390 U
2-Nitroaniline	830	900 U	910 U	910 U	920 U	980 U
Dimethylphthalate	330	360 U	360 U	360 U	370 U	390 U
2,6-Dinitrotoluene	330	360 U	360 U	360 U	61 J	390 U
Acenaphthylene	330	360 U	360 U	360 U	370 U	390 U
3-Nitroaniline	830	900 U	910 U	910 U	920 U	980 U
Acenaphthene	330	360 U	86 J	360 U	120 J	390 U
2,4-Dinitrophenol	830	900 U	910 U	910 U	920 U	980 U
4-Nitrophenol	830	900 U	910 U	910 U	920 U	980 U
Dibenzofuran	330	360 U	360 U	360 U	85 J	390 U
2,4-Dinitrotoluene	330	360 U	360 U	360 U	370 U	390 U
Diethylphthalate	330	360 U	360 U	360 U	370 U	390 U
Fluorene	330	360 U	80 J	360 U	140 J	390 U
4-Chlorophenyl-phenylether	330	360 U	360 U	360 U	370 U	390 U
4-Nitroaniline	830	900 U	910 U	910 U	920 U	980 U
4,6-Dinitro-2-methylphenol	830	900 U	910 U	910 U	920 U	980 U
N-Nitrosodiphenylamine (1)	330	360 U	360 U	360 U	370 U	390 U
4-Bromophenyl-phenylether	330	360 U	360 U	360 U	370 U	390 U
Hexachlorobenzene	330	360 U	360 U	360 U	370 U	390 U
Atrazine	330	360 U	360 U	360 U	370 U	390 U
Pentachlorophenol	830	900 U	910 U	910 U	920 U	980 U
Phenanthrene	330	300 J	880	420	1200	330 J
Anthracene	330	68 J	250 J	99 J	320 J	150 J
Carbazole	330	360 U	83 J	360 U	83 J	390 U
Di-n-butylphthalate	330	360 U	360 U	360 U	370 U	150 J
Fluoranthene	330	660	1500	980	1100	600
Pyrene	330	630	1500	940	1800	590
Butylbenzylphthalate	330	360 U	360 U	360 U	370 U	390 U
3,3'-Dichlorobenzidine	330	360 U	360 U	360 U	370 U	390 U
Benzofluoranthene	330	330 J	770	520	990	360 J
Chrysene	330	500	840	690	1400	510
bis(2-Ethylhexyl)phthalate	330	380	120 J	770	650	710
Di-n-octylphthalate	330	360 U	360 U	360 U	370 U	390 U
Benzobifluoranthene	330	530	970	640	1500	2400
Benzokluoranthene	330	520	940	820	2000	2600
Benzofluoranthene	330	380	920	570	1500	810
Indeno(1,2,3-cd)pyrene	330	260 J	470	290 J	180 J	120 J
Dibenzofluoranthene	330	140 J	230 J	150 J	42 J	120 J
Benzofluoranthene	330	290 J	560	290 J	300 J	210 J
DILUTION FACTOR	1 0:5 0"	1 0	1 0:5 0"	1 0:5 0"	1 0:10"	
DATE SAMPLED	09/06/00	09/06/00	09/06/00	09/06/00	09/06/00	
DATE EXTRACTED	09/12/00	09/12/00	09/12/00	09/12/00	09/12/00	
DATE ANALYZED	09/13/00	09/13/00	09/13/00	09/13/00	09/13/00	
% MOISTURE	8	9	9	11	15	

*Result reported from diluted analysis

NOTE RESULTS ARE REPORTED ON A DRY WEIGHT BASIS